

# Panashe Mutamba

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## PROFESSIONAL SUMMARY

Data professional with 3+ years in government services, skilled in end-to-end solutions using SQL and Python that improved model accuracy by 10% and identified 4,000 intervention cases. Effective technical communicator seeking to leverage engineering, modelling, and analytics expertise to drive data-informed decision making in collaborative environments.

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## SKILLS

Technical Skills:

- Programming Languages: Python, SQL
- Cloud Technologies: AWS (S3, Sagemaker)
- Data Engineering: Data pipelines, ETL processes, data validation
- Data Analytics: Power BI, PostgreSQL, T-SQL, Excel
- Big Data: PySpark
- Development: Version control, Gitlab, Github, Visual Studio, Unit Testing

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## EXPERIENCE

### Tata Consultancy Services

*Data Engineer (Enforcement) | Client: Department for Work and Pensions (DWP) | Sep 2024 – Present*

*Problem Statement: After successfully implementing predictive analytics, a new application was identified for Child Maintenance Service(CMS) Enforcement. The current linear Enforcement process has ineffective steps that fail to secure payments. This project identifies payment influence factors and helps caseworkers make better-informed decisions throughout the customer journey.*

- Collaborated with Senior Data Scientist and Business Analyst to develop a proof of concept for a new predictive analytics use case
- Expanded and validated pre-processed training data from 1 to 7 months, further enhancing model performance and reliability
- Achieved performance increase from **80% to 90%** precision through model tuning, improved data processing techniques and increase in data volume
- Improved multi-class classification model from **10-20%** precision across 10+ classes to over **40%** precision with five grouped classes after inclusion of 7 months data
- Presented technical findings to stakeholders in multiple meetings, effectively communicating complex concepts and addressing questions
- Maintained regular stakeholder communication, providing updates on project progress and incorporating feedback into development cycles
- Our project even caught the attention of the Secretary of State for Work and Pensions (Peter Scofield), who highlighted our findings and potential outcomes

*Data Engineer (Predictive Analytics) | Jan 2022 – Sep 2024*

*Problem Statement: Defaulted payments for child maintenance were increasing overhead, in order to remedy this a Machine Learning model was constructed to predict potential defaulters before they default. Data pipelines were made to display the potential defaulters to the case workers.*

- Collaborated closely with the Lead Data Engineer, Senior Data Engineer, Senior Data Scientist, Business Analyst and Developers to maintain and enhance the pipelines
- Created data dictionaries for multiple raw data files and developed Python validation processes within data pipelines to ensure data quality and consistency before feeding it into a Machine Learning model, reducing error flagging by **50%**
- Tuned ML model using Grid Search optimisation and tested improvements on validation datasets

- improving score by **10%**
- Deployed new pipeline to production, enabling case workers to more easily identify priority cases through DWP's company interface
- Improved case prioritization by identifying **4,000** likely defaulters out of 80,000 total cases, a targeting improvement of **20%**

## Blue Sky Fostering

*Data Administrator | Romsey, UK | Jan 2021 – Jan 2022*

*Problem Statement: There were numerous emails of confidential information regarding minors which needed to be manually entered into the company website database and thereafter each email had to be placed in their respective geographical location. There were more than 60 geographical locations represented by folders. This was a lengthy operation which could be made more efficient.*

- Automated data entry by developing Python programs to process structured email data and input it into the company website database
- Focused manual effort on more complex cases while automating routine entries reducing time actively spent on these by **70%**
- Ensured case workers always had the most up-to-date information when viewing cases on the company database
- Created a Python tool that automated pulling Excel data from the company website and generated automated reports emailed to necessary personnel saving time and allowing for quick decision making
- Resolved issues with time-constrained data retrieval and created meaningful visualizations to capture patterns across locations and time periods

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## EDUCATION

City, University of London – Bayes Business School

*BSc (Hons) Actuarial Science | 2:1 | 2019*

*Relevant Modules: Probability and Statistics 1 and 2, Stochastic Models and Survival Models*

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## CERTIFICATIONS

- Databricks Certified Data Engineer Associate
- AWS Certified Cloud Practitioner
- AWS Certified Developer – Associate
- Data Engineering on Azure